

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An optical head, comprising:

a light emitting device that emits a light beam;

a deflector that deflects the light beam emitted by the light emitting device toward an optical disc;

an objective lens that converges the light beam emerged from the deflector onto the optical disc; and

an error signal detecting system that generates a servo signal for servo control based on the light beam reflected by the optical disc,

wherein said deflector includes a single-element prism having a first surface into which the light beam from said light emitting device enters, a second surface from which the light beam proceeding toward said objective lens emerges, and a third surface from which the light beam reflected by the optical disc emerges, the light beam emerged from the third surface proceeding toward said error signal detecting system,

wherein the light beam from said light emitting device is deflected by the first surface,
and the light beam reflected by the optical disc is reflected by the first surface,

wherein said prism satisfies a condition:

$$\theta_1 = -\theta_2$$

where θ_1 represents an angle which the second surface forms with respect to the first surface, and θ_2 represents an angle which the third surface forms with respect to the first surface, polarity of each of the angles θ_1 and θ_2 being defined depending on whether the each of the angles θ_1 and θ_2 has counterclockwise direction or has clockwise direction.

2. (Original) The optical head according to claim 1, wherein said error signal detecting system includes a beam splitting system which divides the light beam reflected by the optical disc into a plurality of beams including a pair of beams for generating the servo signal and causes the pair of beams to defocus, with respect to a predetermined focal plane, in positive and negative directions, respectively.

3. (Original) The optical head according to claim 2,

wherein said error signal detecting system further includes:

a pair of sensors for the servo signal, the pair of beams divided by the beam splitting system impinging on the pair of sensors, respectively; and

a signal processing unit that generates the servo signal based on outputs of the pair of sensors.

4. (Original) The optical head according to claim 3, wherein the servo signal generated by the pair of sensors includes a focus error signal and a tracking error signal.

5. (Original) The optical head according to claim 3, said error signal detecting system generates the servo signal in accordance with Spot Size method and Push-Pull method.

6. (Original) The optical head according to claim 2, wherein the plurality of beams divided by the beam splitting system includes a beam for a data signal.

7. (Original) The optical head according to claim 1, wherein the first surface is formed as a beam splitting surface.

8. (Original) The optical head according to claim 1, wherein the first surface is formed as a half mirror surface.

9. (Currently Amended) An optical head, comprising:

a light emitting device that emits a light beam;

a deflector that deflects the light beam emitted by the light emitting device toward an optical disc;

an objective lens that converges the light beam emerged from the deflector onto the optical disc; and

an error signal detecting system that generates a servo signal for servo control based on the light beam reflected by the optical disc,

wherein said deflector includes a single-element prism having a first surface into which the light beam from said light emitting device enters, a second surface from which the light beam proceeding toward said objective lens emerges, and a third surface from which the light beam reflected from the optical disc emerges, the light beam emerged from the third surface proceeding toward said error signal detecting system,

wherein the light beam from said light emitting device is deflected by the first surface,
and the light beam reflected by the optical disc is reflected by the first surface,

wherein said prism satisfies a condition:

$$-\pi/1080 \text{ radian} \leq \alpha_1 + \beta_1 \leq \pi/1080 \text{ radian}$$

where α_1 represents an emergence angle which the light beam emerging from the second surface and proceeding toward said objective lens forms with respect to a normal to the second surface, β_1 represents an emergence angle which the light beam emerging from the third surface and proceeding toward said error signal detecting system forms with respect to a normal to the third surface, polarity of each of the angles α_1 and β_1 being defined depending on whether the each of the angles α_1 and β_1 has counterclockwise direction or has clockwise direction.

10. (Original) The optical head according to claim 9, wherein said error signal detecting system includes a beam splitting system which divides the light beam reflected by the optical disc into a plurality of beams including a pair of beams for generating the servo signal and causes the pair of beams to defocus, with respect to a predetermined focal plane, in positive and negative directions, respectively.

11. (Original) The optical head according to claim 10,
wherein said error signal detecting system further includes:
a pair of sensors for the servo signal, the pair of beams divided by the beam splitting system impinging on the pair of sensors, respectively; and
a signal processing unit that generates the servo signal based on outputs of the pair of sensors.

12. (Original) The optical head according to claim 11, wherein the servo signal generated by the pair of sensors includes a focus error signal and a tracking error signal.

13. (Original) The optical head according to claim 11, said error signal detecting system generates the servo signal in accordance with Spot Size method and Push-Pull method.

14. (Original) The optical head according to claim 10, wherein the plurality of beams divided by the beam splitting system includes a beam for a data signal.

15. (Original) The optical head according to claim 9, wherein the first surface is formed as a beam splitting surface.

16. (Original) The optical head according to claim 9, wherein the first surface is formed as a half mirror surface.